



## SEQUENCE LISTING

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TECH CENTER 1600/2500

<110> Rothschild, Max F.  
Kim, Kwan Suk  
Emnett, Rebecca S.

<120> Melanocortin-4 Receptor Gene and Use as a Genetic  
Marker for Fat Content, Weight Gain, and/or Feed  
Consumption in Animals

<130> rothshcild mc4r2

<140> 09/380,419

<141> 2000-07-24

<150> PCT/US99/16862

<151> 1999-07-26

<160> 26

<170> PatentIn Ver. 2.0

<210> 1

<211> 745

<212> DNA

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<221> variation

<222> (678)

<223> G/A

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Leu His Ser Pro Met Tyr Phe Phe Ile Cys Ser Leu Ala Val Ala Asp  
 35 40 45

Met Leu Val Ser Val Ser Asn Gly Ser Glu Thr Ile Ile Ile Thr Leu  
 50 55 60

Leu Asn Ser Thr Asp Thr Asp Ala Gln Ser Phe Thr Val Asn Ile Asp  
 65 70 75 80

Asn Val Ile Asp Ser Val Ile Cys Ser Ser Leu Leu Ala Ser Ile Cys  
 85 90 95

Ser Leu Leu Ser Ile Ala Val Asp Arg Tyr Phe Thr Ile Phe Tyr Ala  
 100 105 110

Leu Gln Tyr His Asn Ile Met Thr Val Lys Arg Val Gly Ile Ser Ile  
 115 120 125

Ser Cys Ile Trp Ala Ala Cys Thr Val Ser Gly Ile Leu Phe Ile Ile  
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Tyr Ser Asp Ser Ser Ala Val Ile Ile Cys Leu Ile Thr Met Phe Phe  
 145 150 155 160

Thr Met Leu Ala Leu Met Ala Ser Leu Tyr Val His Met Phe Leu Met  
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Ala Arg Leu His Ile Lys Arg Ile Ala Val Leu Pro Gly Thr Gly Ala  
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Ile Arg Gln Gly Ala Asn Met Lys Gly Ala Ile Thr Leu Thr Ile Leu  
 195 200 205

Ile Gly Val Phe Val Val Cys Trp Ala Pro Phe Phe Leu His Leu Ile  
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Phe Tyr Ile Ser Cys Pro Gln Asn Pro Tyr Cys Val Cys Phe Met Ser  
 225 230 235 240

His Phe Asn Leu Tyr Leu Ile Leu Ile Met Cys Asn Ser Ile Ile Asp  
245 250 255

Pro Leu Ile Tyr Ala Leu Arg Ser Gln Glu Leu Arg Lys Thr Phe Lys  
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Glu Ile Ile Cys Cys Tyr Pro Leu Gly Gly Leu Cys Asp Leu Ser Ser  
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Ile Asp Asn Val Ile Asp Ser Val Ile Cys Ser Ser Leu Leu Ala Ser  
50 55 60

Ile Cys Ser Leu Leu Ser Ile Ala Val Asp Arg Tyr Phe Thr Ile Phe  
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Tyr Ala Leu Gln Tyr His Asn Ile Met Thr Val Lys Arg Val Gly Ile  
85 90 95

Ile Ile Ser Cys Ile Trp Ala Val Cys Thr Val Ser Gly Val Leu Phe  
100 105 110

Ile Ile Tyr Ser Asp Ser Ser Ala Val Ile Ile Cys Leu Ile Thr Val  
115 120 125

Phe Phe Thr Met Leu Ala Leu Met Ala Ser Leu Tyr Val His Met Phe  
130 135 140

Leu Met Ala Arg Leu His Ile Lys Arg Ile Ala Val Leu Pro Gly Thr  
145 150 155 160

Gly Thr Ile Arg Gln Gly Ala Asn Met Lys Gly Ala Ile Thr Leu Thr  
165 170 175

Ile Leu Ile Gly Val Phe Val Val Cys Trp Ala Pro Phe Phe Leu His  
180 185 190

Leu Ile Phe Tyr Ile Ser Cys Pro Gln Asn Pro Tyr Cys Val Cys Phe  
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 Met Ser His Phe Asn Leu Tyr Leu Ile Leu Ile Met Cys Asn Ser Ile  
           210                                  215                                  220  
 Ile Asn Pro Leu Ile Tyr Ala Leu Arg Ser Gln Glu Leu Arg Lys Thr  
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 Phe Lys Glu Ile Ile Cys Cys Tyr  
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Asp Pro Leu Ile Tyr Ala  
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Asp Pro Leu Ile Tyr Ala  
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